

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A semiconductor device comprising:
a transistor comprising a source, a drain and a gate;
a current source electrically connected to the gate and one of the source and the drain; the transistor; and
a precharge circuit comprising a first terminal electrically connected to the transistor and a second terminal, wherein both the first terminal and the second terminal are electrically connected to the gate and the one of the source and the drain,
wherein the precharge circuit supplies a charge to the transistor according to a comparison between a potential of the first terminal and a potential of the second terminal, and
wherein the current source is configured to supply a current corresponding to a gray scale level.
2. (Currently amended) A semiconductor device according to Claim 1, wherein the precharge circuit comprises:
a comparison control circuit for the comparison between the potential of [[the first]] a first input terminal and the potential of [[the second]] a second input terminal; and
a switch controlled by the comparison control circuit.
3. (Original) A semiconductor device according to Claim 2, wherein the comparison control circuit comprises an operational amplifier.
4. (Previously Presented) A semiconductor device according to Claim 2, wherein the comparison control circuit comprises a chopper inverter comparator.

5. (Original) An electronic apparatus having the semiconductor device according to Claim 1, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.

6. (Currently amended) A semiconductor device comprising:
a transistor comprising a source, a drain, and a gate;
a current source electrically connected to the gate and one of the source and the drain; the transistor;
a charge supply means; and
a precharge circuit configured to supply a charge to the transistor, the precharge circuit comprising:
a comparison control circuit having an output terminal, a first input terminal electrically connected to the transistor, and a second input terminal electrically connected to the gate and the one of the source and the drain; and an output terminal; and
a switch electrically connected to the output terminal,
wherein the charge supply means is electrically connected to the gate and the source and the drain the transistor through the switch; and
wherein the current source is configured to supply a current corresponding to a gray scale level.

7. (Previously Presented) A semiconductor device according to Claim 6, wherein the charge supply means is a second current source.

8. (Original) A semiconductor device according to Claim 6, wherein the charge supply means is a power source.

9. (Original) The semiconductor device according to Claim 6, wherein the comparison control circuit comprises an operational amplifier.

10. (Previously Presented) The semiconductor device according to Claim 6, wherein the comparison control circuit comprises a chopper inverter comparator.

11. (Original) An electronic apparatus having the semiconductor device according to Claim 6, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.

12. (Currently amended) A semiconductor device comprising:
a transistor comprising a source [[electrode]], a drain [[electrode]] and a gate [[electrode]];
a capacitor electrically connected to the gate and one of the source and the drain
a current source electrically connected to the gate and the one of the source and the drain;
the transistor;
a charge supply means; and
a precharge circuit configured to supply a charge to the transistor, the precharge circuit comprising:
a comparison control circuit having an output terminal, a first input terminal electrically connected to the transistor, and a second input terminal electrically connected to the gate and the one of the source and the drain; and an output terminal; and
a switch electrically connected to the output terminal,
wherein the gate electrode is electrically connected to any one of the source electrode and the drain electrode,
wherein the charge supply means is electrically connected to any one of the source electrode and the drain electrode the gate and the one of the source and the drain through the switch; and
wherein the current source is configured to supply a current corresponding to a gray scale level.

13. (Previously Presented) A semiconductor device according to Claim 12, wherein the charge supply means is a second current source.

14. (Original) A semiconductor device according to Claim 12, wherein the charge supply means is a power source.

15. (Original) The semiconductor device according to Claim 12, wherein the comparison control circuit comprises an operational amplifier.

16. (Previously Presented) The semiconductor device according to Claim 12, wherein the comparison control circuit comprises a chopper inverter comparator.

17. (Original) An electronic apparatus having the semiconductor device according to Claim 12, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.

18. (Currently amended) A display device comprising:

a light emitting element;

a transistor comprising a source, a drain and a gate, and electrically connected to the light emitting element;

a current source electrically connected to the gate and one of the source and the drain; the transistor; and

a precharge circuit comprising a first terminal electrically connected to the transistor and a second terminal, wherein both the first terminal and the second terminal are electrically connected to the gate and the one of the source and the drain.

wherein the precharge circuit supplies a charge to the transistor according to a comparison between a potential of the first terminal and a potential of the second terminal;

wherein the current source is configured to supply a first current corresponding to a gray scale level, and

wherein the transistor supplies a second current corresponding to the first current to the light emitting element.

19. (Cancelled)

20. (Previously Presented) A display device according to Claim 18, wherein the precharge circuit comprises:

a comparison control circuit for the comparison between the potential of the first terminal and the potential of the second terminal; and

a switch controlled by the comparison control circuit.

21. (Original) A display device according to Claim 20, wherein the comparison control circuit comprises an operational amplifier.

22. (Previously Presented) A display device according to Claim 20, wherein the comparison control circuit comprises a chopper inverter comparator.

23. (Original) An electronic apparatus having the display device according to Claim 18, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.

24. (Currently amended) A display device comprising:

a light emitting element;

a transistor comprising a source, a drain and a gate, and electrically connected to the light emitting element;

a current source electrically connected to the gate and one of the source and the drain; the transistor;

a charge supply means; and

a precharge circuit configured to supply a charge to the transistor, the precharge circuit comprising:

a comparison control circuit having an output terminal, a first input terminal electrically connected to the transistor, and a second input terminal electrically connected to the gate and the one of the source and the drain; and an output terminal; and

a switch electrically connected to the output terminal,

wherein the charge supply means is electrically connected to the gate and the source and the drain the transistor through the switch, and

wherein the current source is configured to supply a current corresponding to a gray scale level.

25. (Canceled)

26. (Previously Presented) A display device according to Claim 24, wherein the charge supply means is a second current source.

27. (Original) A display device according to Claim 24, wherein the charge supply means is a power source.

28. (Original) The display device according to Claim 24, wherein the comparison control circuit comprises an operational amplifier.

29. (Previously Presented) The display device according to Claim 24, wherein the comparison control circuit comprises a chopper inverter comparator.

30. (Original) An electronic apparatus having the display device according to Claim 24, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.

31. (Currently amended) A display device comprising:
a light emitting element;
a transistor comprising a source [[electrode]], a drain [[electrode]] and a gate [[electrode]];
a capacitor electrically connected to the gate and one of the source and the drain;
a current source electrically connected to the gate and the one of the source and the drain;
the transistor;
a charge supply means; and
a precharge circuit configured to supply a charge to the transistor, the precharge circuit comprising:
a comparison control circuit having an output terminal, a first input terminal electrically connected to the transistor, and a second input terminal electrically connected to the gate and the one of the source and the drain; and an output terminal; and
a switch electrically connected to the output terminal,
wherein the gate electrode is electrically connected to any one of the source electrode and the drain electrode;
wherein the charge supply means is electrically connected to any one of the source electrode and the drain electrode the gate and the one of the source and the drain through the switch,
wherein the light emitting element is electrically connected to any one of the source [[electrode]] and the drain [[electrode]], and
wherein the current source is configured to supply a current corresponding to a gray scale level.

32. (Previously Presented) A display device according to Claim 31, wherein the charge supply means is a second current source.

33. (Original) A display device according to Claim 31, wherein the charge supply means is a power source.

34. (Original) The display device according to Claim 31, wherein the comparison control circuit comprises an operational amplifier.

35. (Previously Presented) The display device according to Claim 31, wherein the comparison control circuit comprises a chopper inverter comparator.

36. (Original) An electronic apparatus having the display device according to Claim 31, wherein the electronic apparatus is selected from the group consisting of a light emitting device, a digital still camera, laptop personal computer, a mobile computer, a portable image reproducing device, a goggle type display, a video camera and a portable phone.